

CLAIMS:

1. Pickup unit (1) for reading and/or writing data on a disk, comprising a lens (3) in a lens holder (4), a base (5), a suspension for suspending the lens holder (4) from the base (5), which suspension enables the lens holder (4) to be moved with respect to the base (5) at least in a focusing direction of the lens (3) under the action of a focusing actuator acting between the lens holder (4) and the base (5), and a pullback arrangement (9) for moving the lens holder (4) into an inoperative position at least during reading and/or writing of data on the disk (2), wherein the pullback arrangement (6) comprises at least a first pullback member (7) provided on the base (5), at least a second pullback member (8) formed on the lens holder (4), and a pullback actuator (9) adapted to act on the first pullback member (7) to bring it into contact with the second pullback member (8) and to move the lens holder (4) into the inoperative position.
2. Pickup unit (1) according to claim 1, wherein the second pullback member (8) is an engagement surface formed on the lens holder (4) in a direction substantially perpendicular to the focusing direction of the lens (3), wherein the first pullback member (7) is an elongated member having a hook section (10) at one end, and wherein the first pullback member (7) is movable through the base (5) in a direction substantially parallel to the focusing direction of the lens (3) such that the hook section (10) is able to engage the engagement surface forming the second pullback member (8) and to move the lens holder (4) into the inoperative position.
3. Pickup unit according to any one of the preceding claims, comprising a return member (11) adapted to act on the first pullback member (7) in order to keep it out of contact with the second pullback member (8) when the pullback actuator (9) is deactivated.
4. Pickup unit (1) according to any one of the preceding claims, wherein the pullback actuator (9) is a solenoid which is mounted to the base (5) and which is operatively connected to the pullback member (7).

5. Pickup unit (1) according to any one of the preceding claims, further comprising a locking arrangement (12, 12') for locking the lens holder (4) with respect to the base (5) in at least the inoperative position of the lens holder (4), wherein the locking arrangement (12, 12') comprises at least a first locking member (13, 13') movably connected to the base (5) and movable in a direction substantially parallel to the focusing direction, at least a second locking member (14, 14') formed on the lens holder (4), and a locking actuator (15, 15') adapted to act on the first locking member (13, 13') so as to bring the first locking member (13, 13') into engagement with the second locking member (14, 14').

10 6. Pickup unit (1) according to claim 5, wherein the second locking member (14, 14') is a locking surface formed on the lens holder (4) at least partly in a direction substantially perpendicular to the focusing direction of the lens (3), and wherein the first locking member (13, 13') is an elongated member which is movable through the base (5) in a direction substantially perpendicular to the focusing direction of the lens (3) such that the first locking member (13, 13') is able to engage the locking surface forming the second locking member (14, 14') and to lock the lens holder (4) in its inoperative position.

15 7. Pickup unit (1) according to claim 5 or 6, wherein the locking arrangement (12, 12') is provided with securing members (17, 17', 18, 18') adapted to secure the engagement of the first and second locking member (13, 13', 14, 14').

20 8. Pickup unit (1) according any one of claims 5 to 7, wherein the locking actuator (15, 15') is a solenoid or a linear motor which is mounted to the base (5) and which is operatively connected to the first locking member (13, 13').

25 9. Pickup unit (1) for reading and/or writing data on a disk (2), comprising a lens (3) in a lens holder (4), a base (5), a suspension for suspending the lens holder (4) from the base (5), which suspension enables the lens holder (4) to be moved with respect to the base (5) at least in a focusing direction of the lens (3) under the action of a focusing actuator acting between the lens holder (4) and the base (5), and a locking arrangement (12, 12') for locking the lens holder (4) with respect to the base (5) in at least an inoperative position of the lens holder (4), wherein the locking arrangement (12, 12') comprises at least a first locking member (13, 13') connected to the base (5) and movable in a direction substantially perpendicular to the focusing direction, at least a second locking member (14, 14') formed on

the lens holder (4), and a locking actuator (15, 15') adapted to act on the first locking member (13, 13') so as to move the first locking member (13, 13') into engagement with the second locking member (14, 14').

5 10. Pickup unit (1) according to claim 9, wherein the second locking member (14, 14') is a locking surface formed on the lens holder (4) at least partly in a direction substantially perpendicular to the focusing direction of the lens (3), and wherein the first locking member (13, 13') is an elongated member which is movable through the base (5) in a direction substantially perpendicular to the focusing direction of the lens (3) such that the 10 first locking member (13, 13') is able to engage the locking surface forming the second locking member (14, 14') and to lock the lens holder (4) in its inoperative position.

11. Pickup unit (1) according to claim 9 or 10, wherein the locking arrangement (12, 12') is provided with securing members (17, 17', 18, 18') adapted to secure the 15 engagement of the first and second locking member (13, 13', 14, 14').

12. Pickup unit (1) according any one of claims 9 to 11, wherein the locking actuator (15, 15') is a solenoid or a linear motor which is mounted to the base (5) and which is operatively connected to the first locking member (13, 13').

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13. Pickup unit (1) according to any one of claims 9 to 12, further comprising a pullback arrangement (6) for moving the lens holder (4) into an inoperative position at least during reading and/or writing of data on the disk (2), wherein the pullback arrangement (6) comprises at least a first pullback member (7) formed on the base (5), at least a second 25 pullback member (8) provided on the lens holder (4), and a pullback actuator (9) adapted to act on the first pullback member (7) to bring it into contact with the second pullback member (8) and to move the lens holder (4) into the inoperative position.

14. Pickup unit (1) according to claim 13, wherein the second pullback member 30 (8) is an engagement surface formed on the lens holder (4) in a direction substantially perpendicular to the focusing direction of the lens (3), wherein the first pullback member (7) is an elongated member having a hook section (10) at one end, and wherein the first pullback member (7) is movable through the base (5) in a direction substantially parallel to the focusing direction of the lens (3) such that the hook section (10) is able to engage the

engagement surface forming the second pullback member (8) and to move the lens holder (4) into the inoperative position.

15. Pickup unit according to claim 13 or 14, comprising a return element adapted
5 to act on the first pullback member in order to keep it out of contact with the second pullback member when the pullback actuator is deactivated.

16. Pickup unit (1) according to any one of claims 13 to 15, wherein the pullback actuator (9) is a solenoid which is mounted to the base (5) and which is operatively connected
10 to the first pullback member (7).

17. Disk drive unit provided with a pickup unit (1) according to any one of the preceding claims, further comprising a control circuit connected to the pullback actuator (9) and including a sensor adapted to detect a pullback condition, e.g. a shock, either by directly
15 detecting said shock or by detecting a disturbance in the reading and/or writing of the data on the disk (2) as a result of the shock, whereupon the control circuit provides an activating signal to the pullback actuator (9).

18. Disk drive unit provided with a pickup unit (1) according to any one of the preceding claims, further comprising a control circuit connected to the locking actuator (15, 15') and to the focusing actuator and/or the pullback actuator (9), wherein the control circuit is adapted to provide an activating signal to the focusing actuator or the pullback actuator (9) to move the lens holder (4) into or beyond the inoperative position and to provide an activating signal to the locking actuator (15, 15') to move the first locking member (13, 13')
25 towards the lens holder (4) to come into engagement with the second locking member (14, 14').

19. Disk drive (1) according to claim 18, wherein the control circuit is adapted to provide an activating signal to the locking actuator (15, 15') to move the first locking member (13, 13') out of engagement with the second locking member (14, 14').